

Patent number:

Drawing component number:

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FIG. 9 is a partial section view of FIG. 1 in combination with a standard wall-mounted toothbrush holder.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

Referring to FIGS. 1-3, toothbrush 10, according to the principles of the present invention, includes a wind operated sound device 12 connected integrally with a toothbrush section 14. Section 14 comprises a longitudinal handle or extender 20 terminating in a brush part formed by upstanding bristles 22 secured in the extender in any suitable manner. Preferably, sound device 12 and extender 20 are made of plastic or other suitable material and molded as a single unitary piece.

Sound device 12 preferably comprises a hollow mouthpiece 16 connected to and communicating with a sound chamber shell 18 which in turn is fixed or integrally connected longitudinally to extender 20. Preferably mouthpiece 16 and extender 20 are axially aligned although they could have alternate relative orientations (not shown). Also, shell 18 is preferably generally symmetrically oriented on the longitudinal axis although it can have other orientations if desired.

FIG. 1A

...

Sentence 1.

Referring (1) to (2) FIGS.1-3 (3), **toothbrush** (4) **10** (5), according (6) to (7) the (8) principles (9) of (10) the (11) present (12) invention (13), includes (14) a (15) **wind** (16) **operated** (17) **sound** (18) **device** (19) **12** (20) connected (21) integrally (22) with (23) a (24) **toothbrush** (25) **section** (26) **14**(27).

Sentence 2.

Section (1) **14** (2) comprises (3) a (4) **longitudinal** (5) **handle** (6) or (7) **extender** (8) **20** (9) terminating (10) in (11) a (12) brush (13) part (14) formed (15) by (16) **upstanding** (17) **bristles** (18) **22** (19) secured (20) in (21) the (22) extender (23) in (24) any (25) suitable (26) manner(27).

Sentence 3.

Preferably(1), **sound** (2) **device** (3) **12** (4) and (5) **extender** (6) **20** (7) are (8) made (9) of (10) plastic (11) or (12) other (13) suitable (14) material (15) and (16) molded (17) as (18) a (19) single (20) unitary (21) piece(22).

Sentence 4.

Sound (1) **device** (2) **12** (3) preferably (4) comprises (5) a (6) **hollow** (7) **mouthpiece** (8) **16** (9) connected (10) to (11) and (12) communicating (13) with (14) a (15) **sound** (16) **chamber** (17) **shell** (18) **18** (19) which (20) in (21) turn (22) is (23) fixed (24) or (25) integrally (26) connected (27) longitudinally (28) to (29) **extender** (30) **20** (31).

Sentence 5.

Preferably (1) **mouthpiece** (2) **16** (3) and (4) **extender** (5) **20** (6) are (7) axially (8) aligned (9) although (10) they (11) could (12) have (13) alternate (14) relative (15) orientations (16) (not (17) shown (18)).

Sentence 6.

Also (1), **shell** (2) **18** (3) is (4) preferably (5) generally (6) symmetrically (7) oriented (8) on (9) the (10) longitudinal (11) axis (12) although (13) it (14) can (15) have (16) other (17) orientations (18) if (19) desired (20).

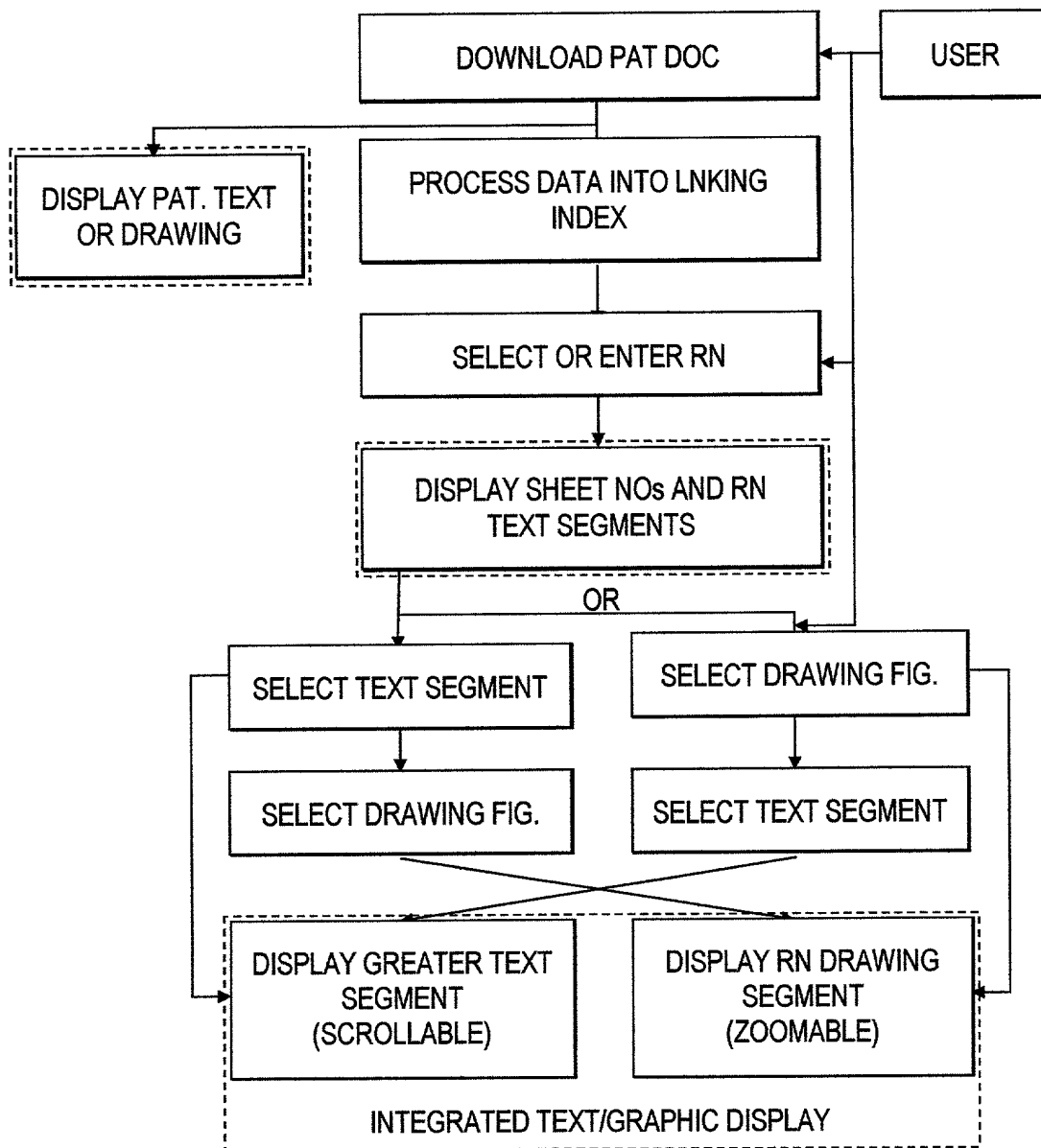
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FIG. 1B

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Patent_ID	Drawing_Component_ID (RS)		Drawing_Component_Location_in_Text		Drawing_Component_Coordinates_in_Drawings		
Patent_Number	Drawing_Component_Number (RS)	Drawing_Component_Name	Drawing_Component_Normalized_Name	Sentence_Number	Word_Number(s)	Sheet_Number(s)	Drawing_Reference_Number_Coordinates_In_Sheet(s) X,Y
5,974,616	10	toothbrush	toothbrush	1	5	1	Fig.1 557, 306
5,974,616	10					1	Fig.2 557, 511
5,974,616	12	wind operated sound device	sound device	1	20	1	Fig.1 242, 146
5,974,616	12	sound device	sound device	3	4	1	Fig.3 548, 592
5,974,616	12	sound device	sound device	4	3	1	Fig.4 178, 1030
5,974,616	14	toothbrush section	toothbrush section	1	27	1	Fig.1 479, 147
5,974,616	14	section	toothbrush section	2	2		
5,974,616	16	hollow mouthpiece	mouthpiece	4	9	1	Fig.1 183, 196
5,974,616	16	mouthpiece	mouthpiece	5	3	1	Fig.2 190, 384
5,974,616	16					1	Fig.3 301, 621
5,974,616	16					2	Fig.9 486, 974
5,974,616	18	sound chamber shell	shell	4	19	1	Fig.1 325, 217
5,974,616	18	shell	shell	6	3	1	Fig.2 317, 399
5,974,616	18					1	Fig.3 451, 616
5,974,616	18					2	Fig.9 355, 811
5,974,616	20	longitudinal handle or extender	extender	2	9	1	Fig.1 451, 204
5,974,616	20	extender	extender	3	7	1	Fig.2 439, 400
5,974,616	20	extender	extender	4	31	1	Fig.3 539, 638
5,974,616	20	extender	extender	5	6	1	Fig.4 378, 888
5,974,616	20					2	Fig.9 487, 784
5,974,616	22	upstanding bristles	bristle	2	19	1	Fig.1 681, 203
5,974,616	22					1	Fig.2 664, 408

FIG. 2A



RS – Reference Number

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FIG. 2B

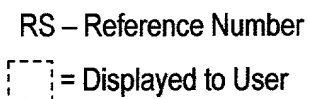


FIG. 2C

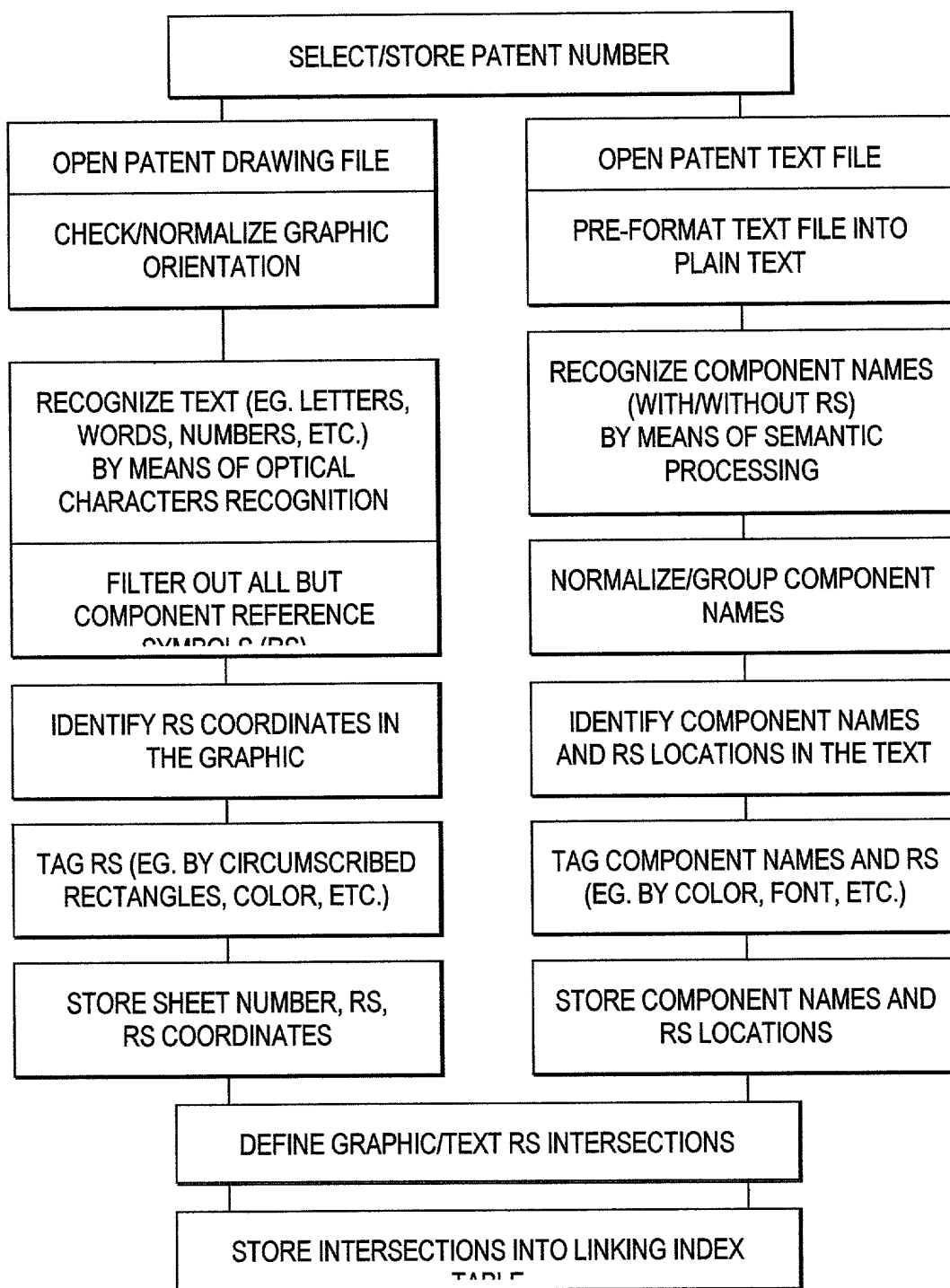


FIG. 2D

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...
toothbrush 10
operated sound device 12
toothbrush section 14
hollow mouthpiece 16
sound chamber shell 18
extender 20
upstanding bristles 22
...

Patent Nov. 2, 1999 Sheet 1

FIG. 1

FIG. 2

Sheet 1 Fig.1

FIG. 3

Sheet 1 Fig.2

FIG. 7

Sheet 1 Fig.3

Sheet 2 Fig.9

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... Sound device 12 preferably comprises a hollow mouthpiece 16 connected to and communicating with a sound chamber shell 18 which in turn is fixed or integrally connected longitudinally to extender 20.

... Also, shell 18 is preferably generally symmetrically oriented on the longitudinal axis although it can have other orientations if desired.

...

FIG. 3

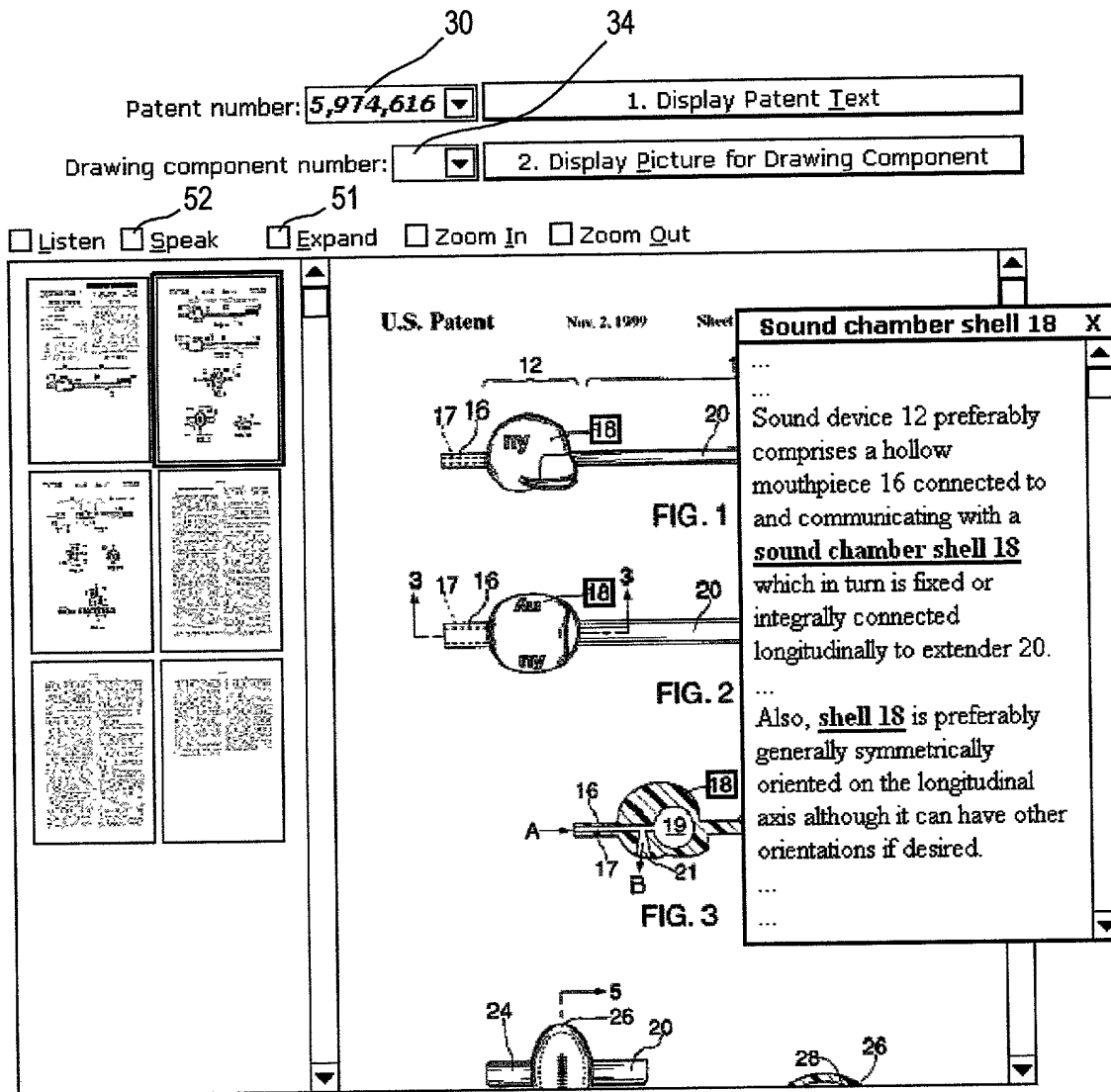


FIG. 4

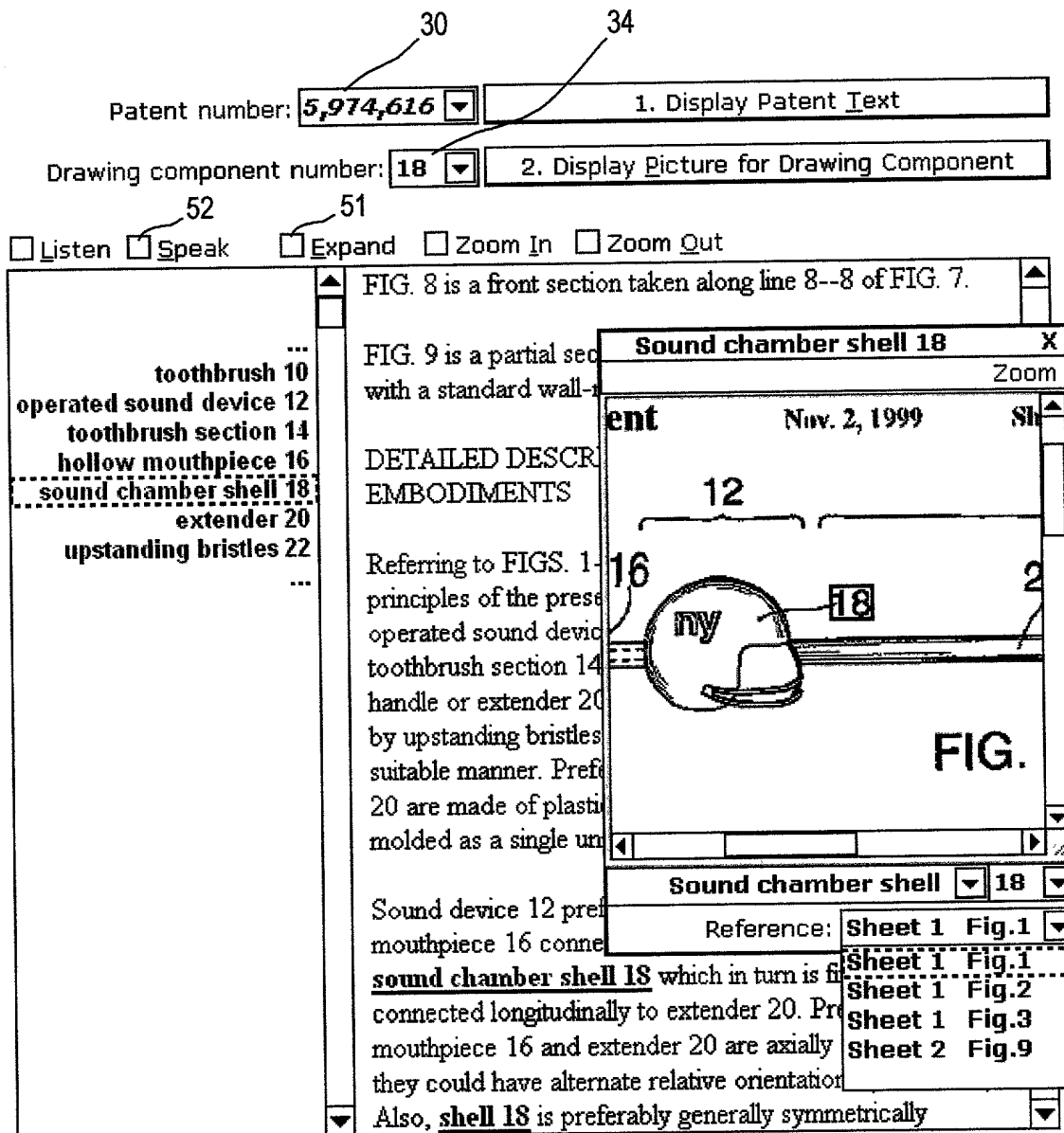


FIG. 5

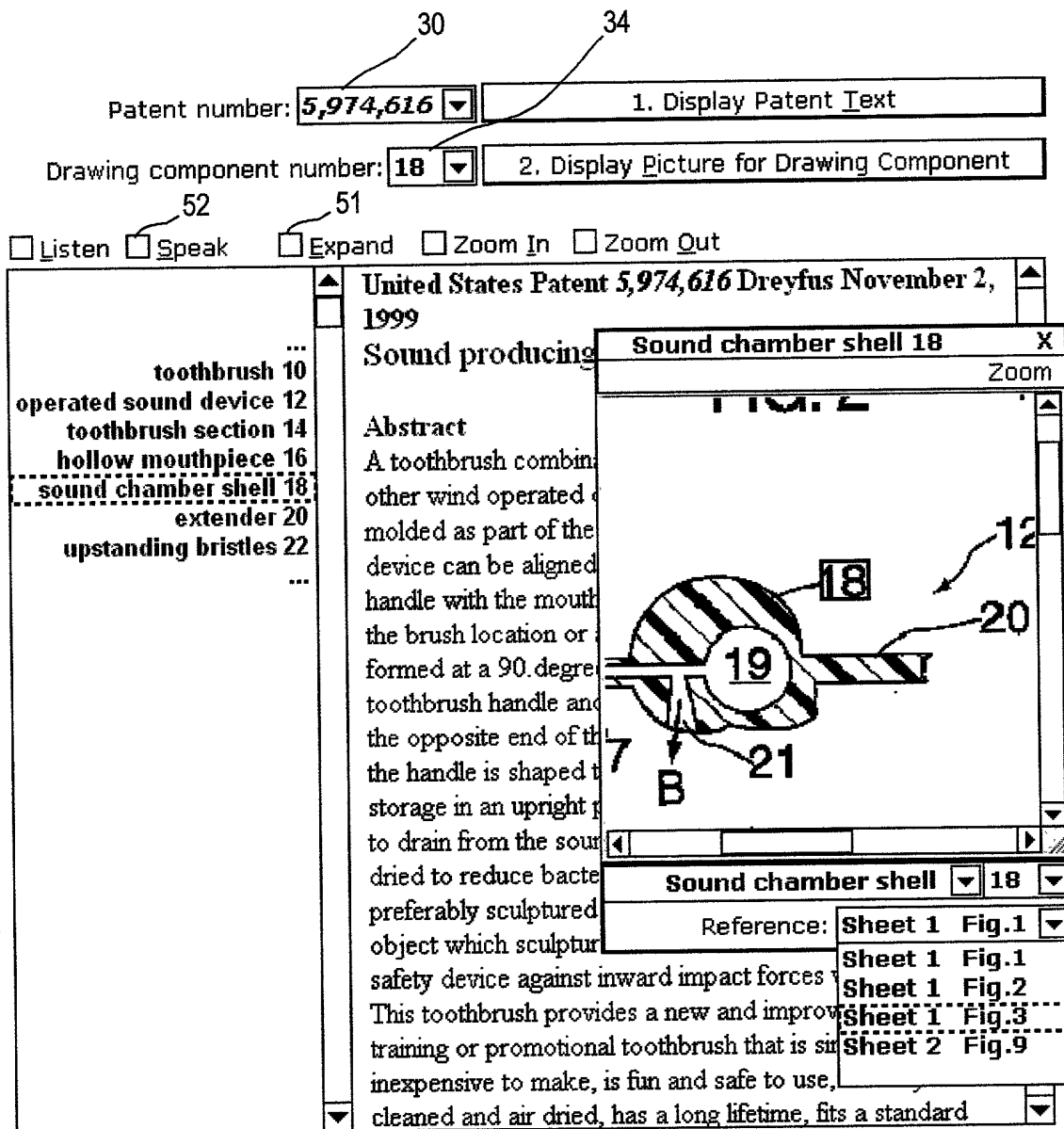


FIG. 6

11/19

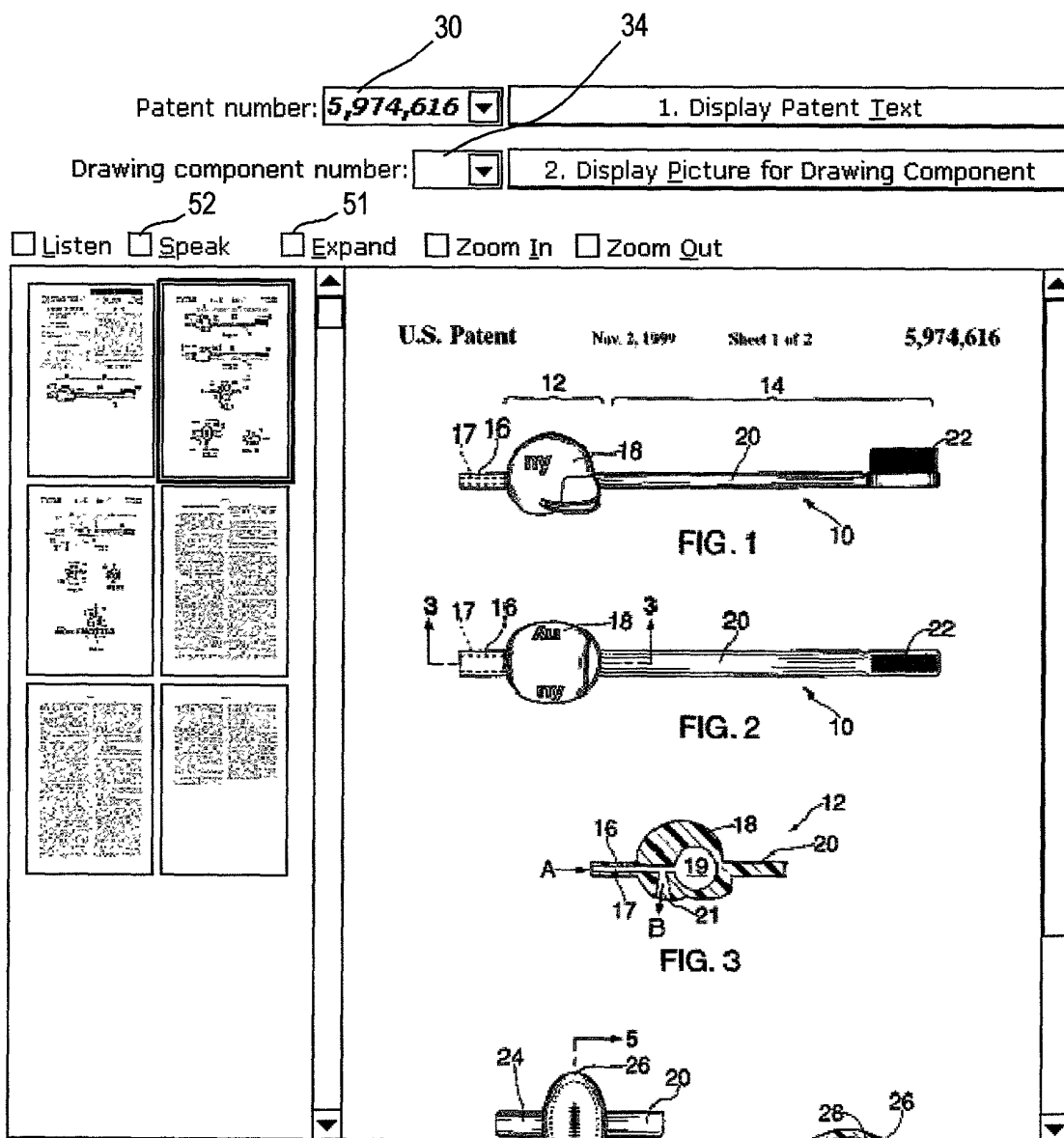


FIG. 7

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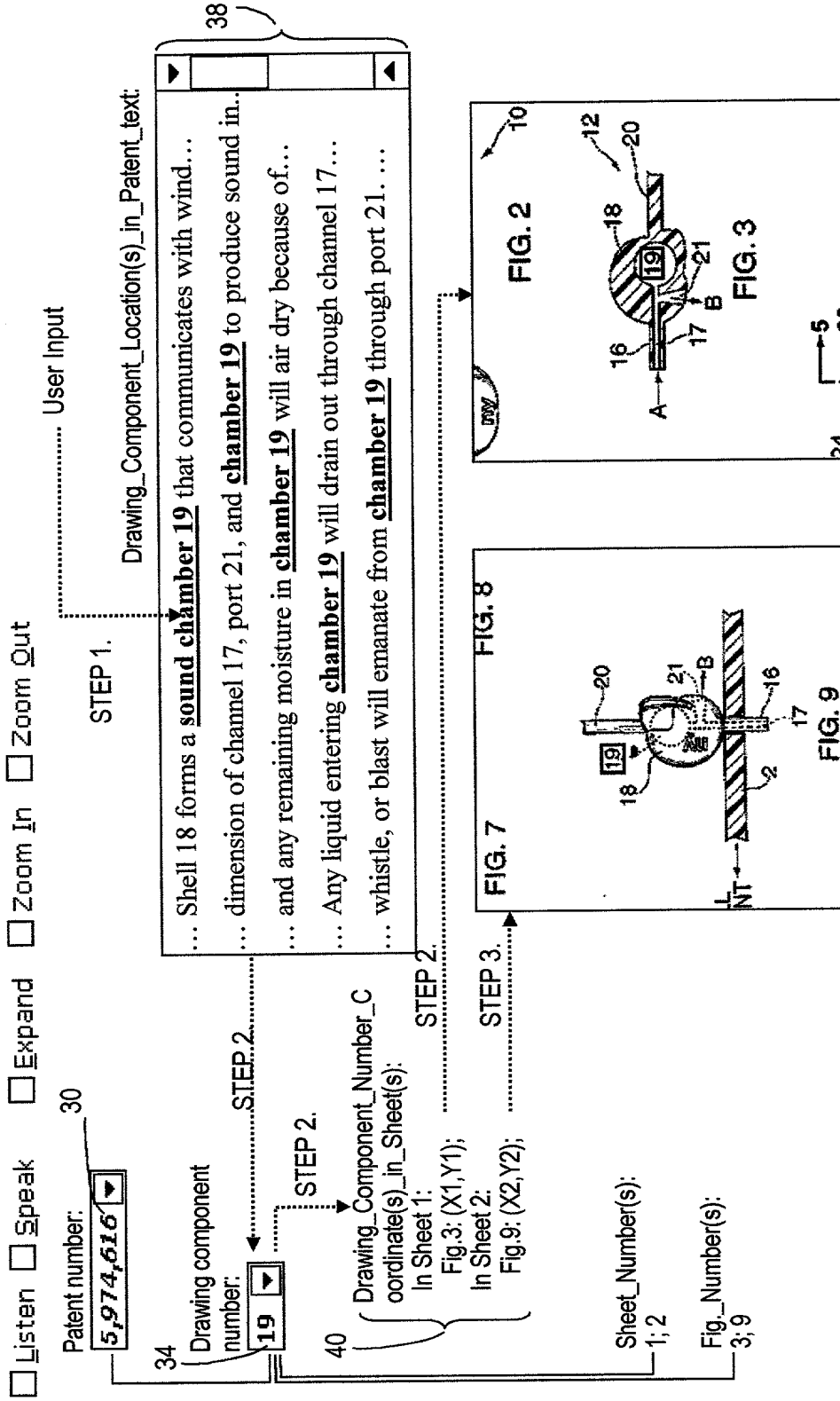
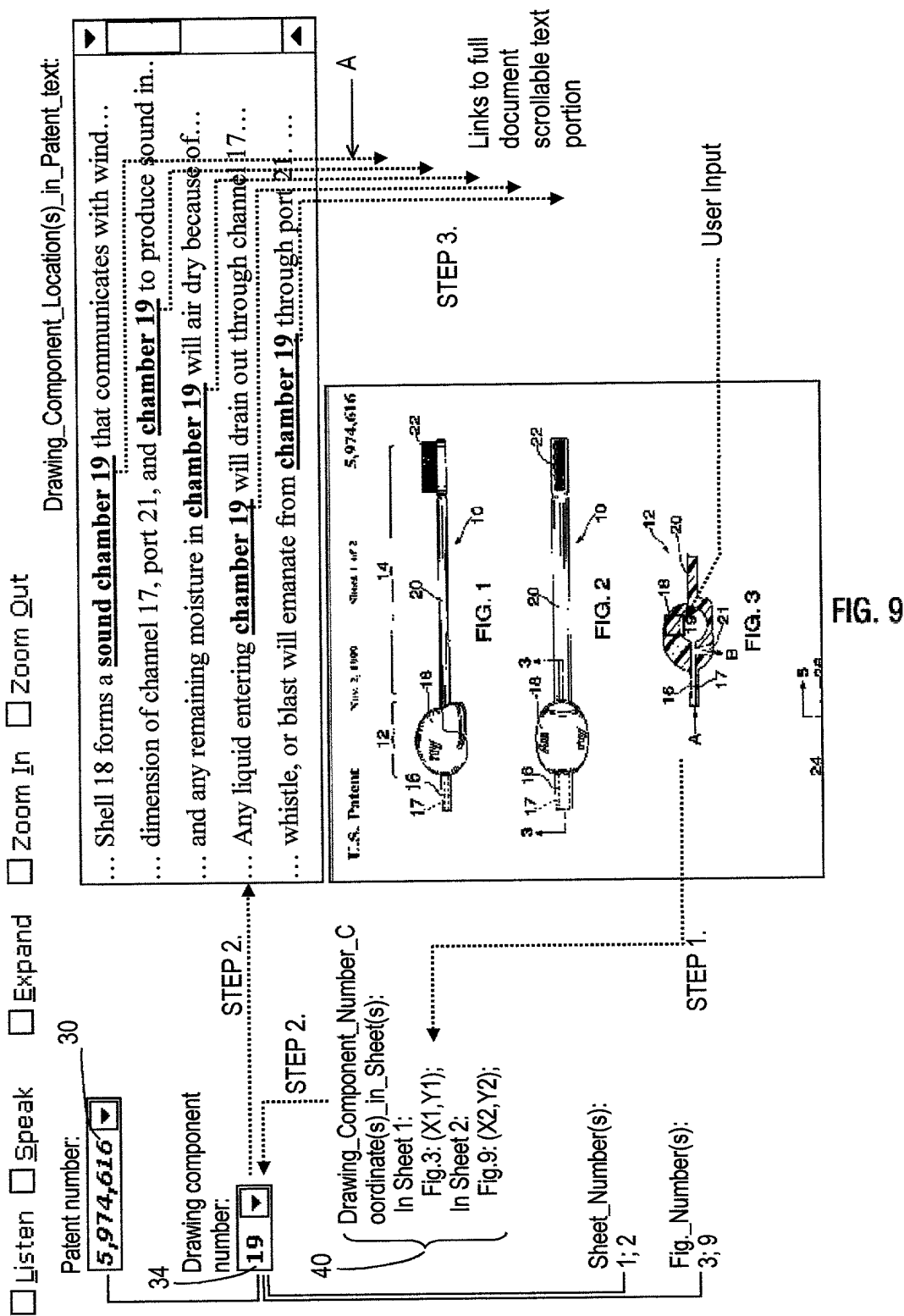


FIG. 8



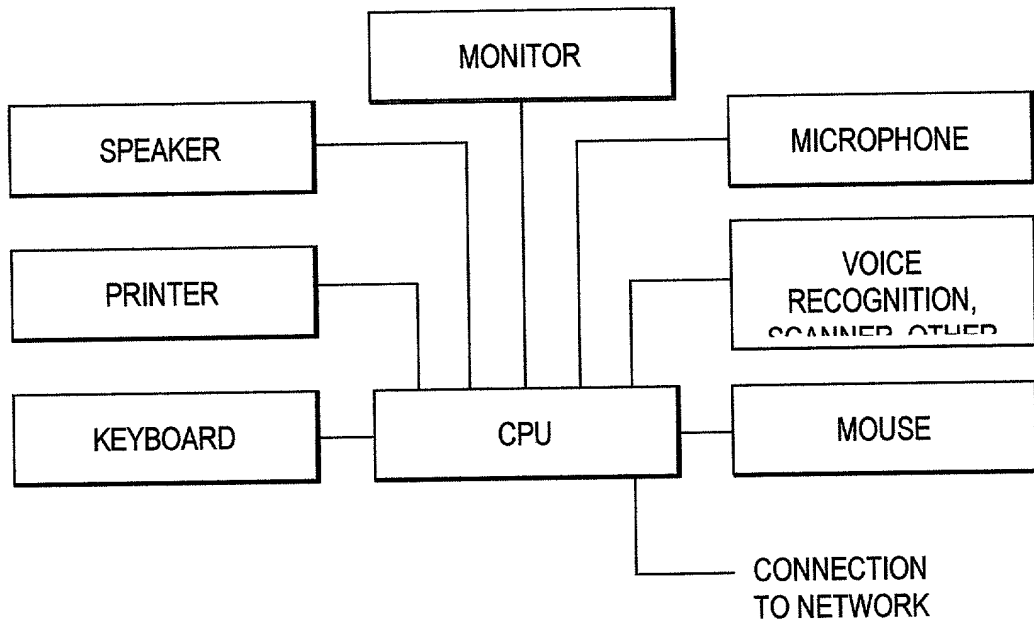


FIG. 10

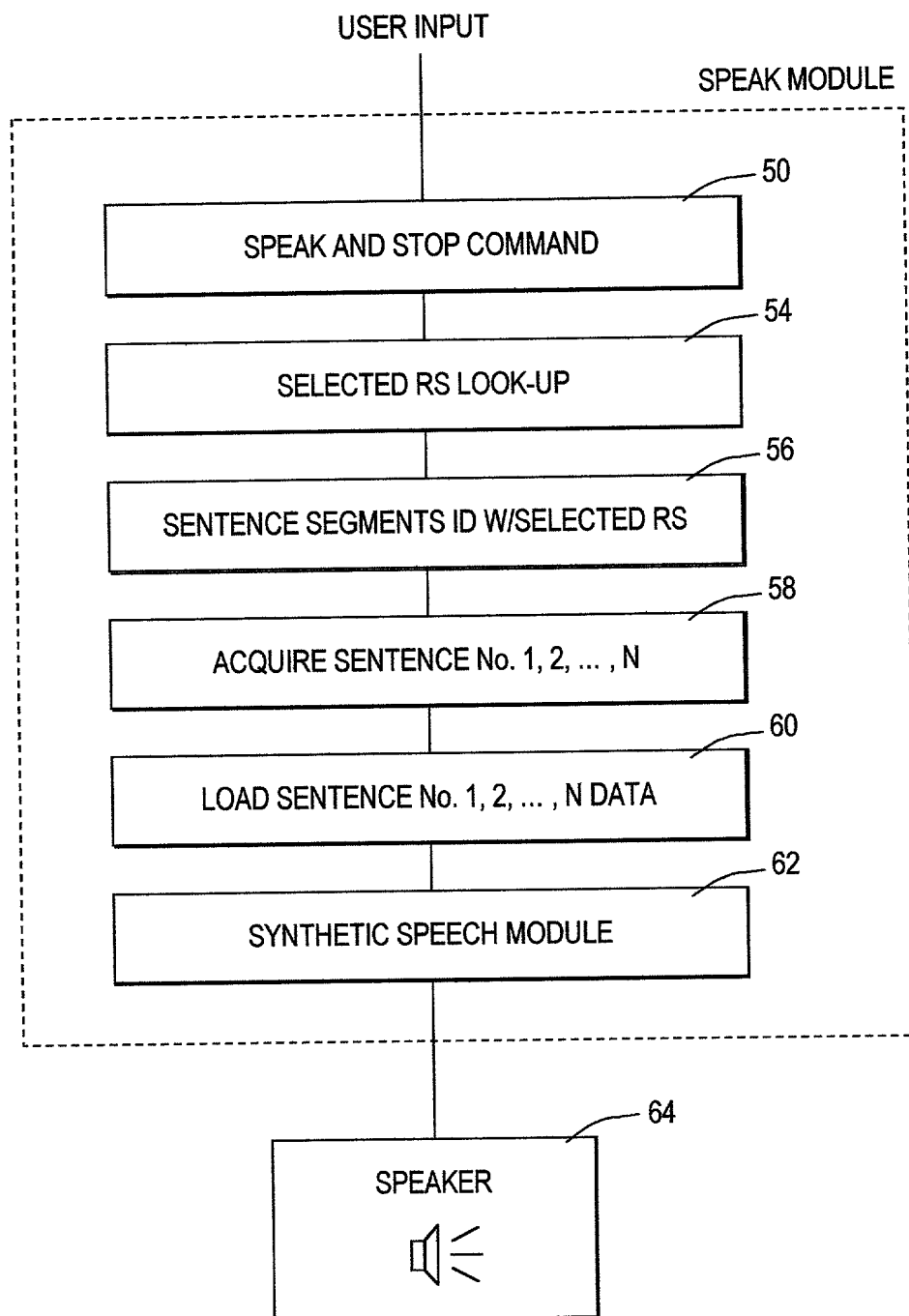


FIG. 11

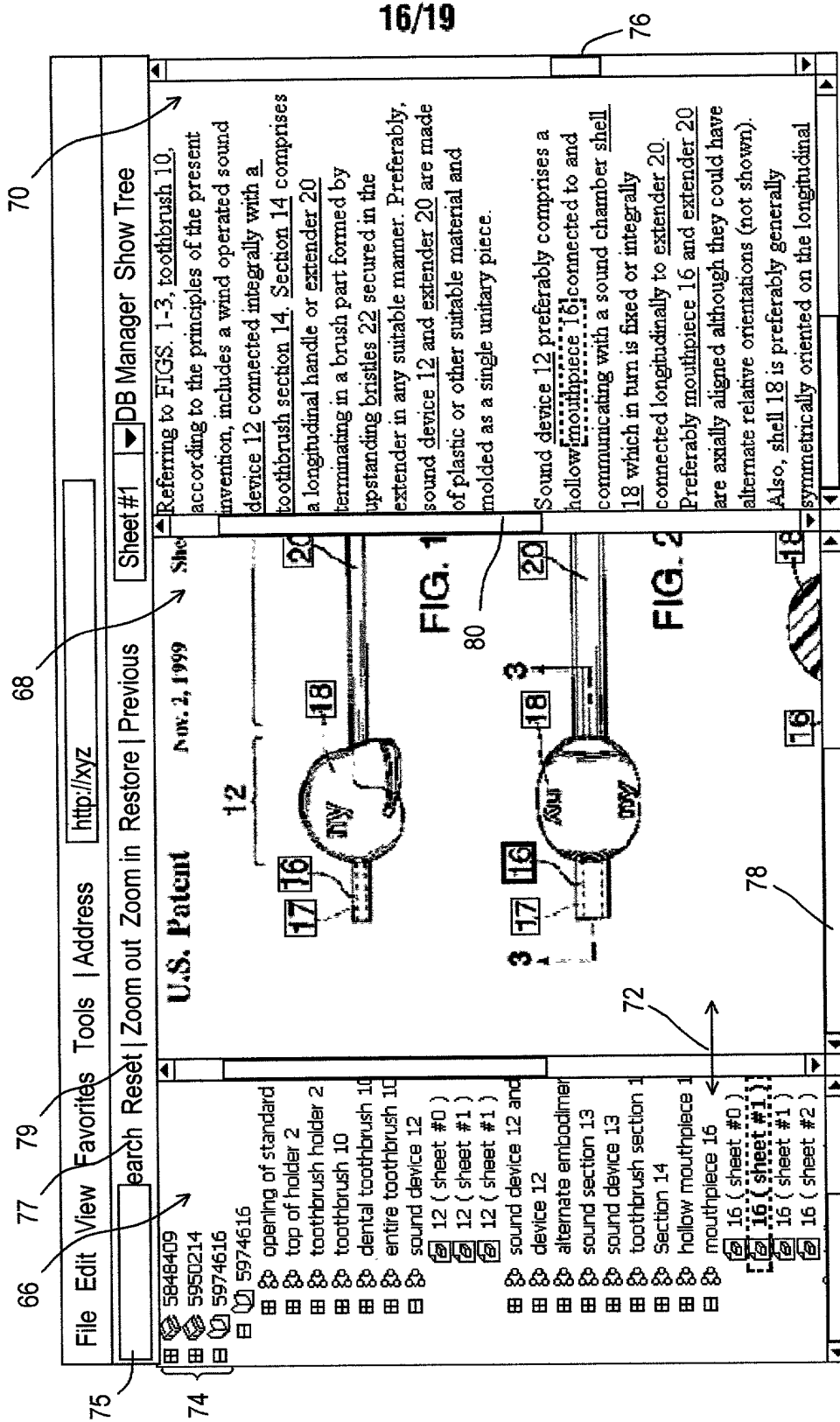


FIG. 12

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5848409

5950214

5974616

5974616

opening of standard

top of holder 2

toothbrush holder 2

toothbrush 10

dental toothbrush 10

entire toothbrush 10

sound device 12

12 (sheet #0)

12 (sheet #1)

12 (sheet #1)

sound device 12 and

device 12

alternate embodiment

sound device 13

toothbrush section 1

Section 14

hollow mouthpiece 1

mouthpiece 16

16 (sheet #0)

16 (sheet #1)

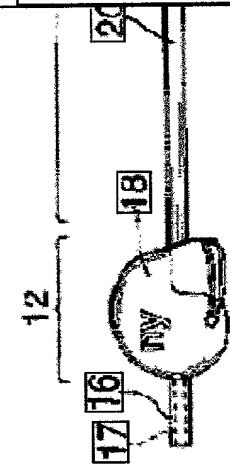
16 (sheet #1)

16 (sheet #2)

U.S. Patent

Nov. 2, 1999

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Referring to FIGS. 1-3, toothbrush 10, according to the principles of the present invention, includes a wind operated sound device 12 connected integrally with a toothbrush section 14. Section 14 comprises a longitudinal handle or extender 20 terminating in a brush part formed by upstanding bristles 22 secured in the extender in any suitable manner. Preferably, sound device 12 and extender 20 are made of plastic or other suitable material and molded as a single unitary piece.

Sound device 12 preferably comprises a hollow mouthpiece 16 connected to and communicating with a sound chamber shell 18 which in turn is fixed or integrally connected longitudinally to extender 20. Preferably mouthpiece 16 and extender 20 are axially aligned although they could have alternate relative orientations (not shown). Also, shell 18 is preferably generally symmetrically oriented on the longitudinal

FIG. 13

FIG. 14



FIG. 15